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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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JONATHAN P. OSHA
OSHA & MAY LLP
1221 MCKINNEY STREET
SUITE 77010
HOUSTON, TX   77010

| EXAMINER |
|---|
| VO, LILIAN |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2195 | |

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>03</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>28 February 2005</u>.

2a)☐ This action is **FINAL**.    2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1 - 12</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1 - 12</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

## DETAILED ACTION

1.      Claims 1 – 12 are pending.

### *Claim Rejections - 35 USC § 101*

2.      35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.      Claims 1 – 4 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.

*4.*      **Claims 1 – 4** are directed to method steps, which can be practiced mentally in conjunction with pen and paper, therefore they are directed to non-statutory subject matter.  Specifically, as claimed, it is uncertain what performs each of the claimed method steps.  Moreover, each of the claimed steps, inter alia, <u>assigning, allocating,</u> can be practiced mentally in conjunctions with pen and paper.  The claimed steps do not define a machine or computer implemented process [see MPEP 2106].  Therefore, the claimed invention is directed to non-statutory subject matter.  (The examiner suggests applicant to change "method" to "computer implemented method" in the preamble to overcome the outstanding 35 U.S.C. 101 rejection).

### *Claim Rejections - 35 USC § 103*

5.      Claims 1 - 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

White Paper ("Solaris Resource Manager – Controlling System Resources Effectively",

hereinafter White Paper), cited by applicants.

6.      Regarding **claim 1,** White Paper discloses a method for allocating a percentage of

system resources among a plurality of process groups in a computer system, said

computer system comprising a plurality of CPUs, said plurality of CPUs combined into at

least one processor set (page 2, paragraph 4, page 5, paragraph 4), said method

comprising:

   a.      assigning each of said plurality of process groups a number of shares of at

   least one processor set (page 5, paragraphs 4th, 7th, page 6, paragraphs 1, 2, page

   8, paragraph 1 and page 13, paragraph 4, and figs. 2-1 and 3-1); and

   b.      allocating said system resources of said at least one processor set to each

   of said plurality of process groups associated with said at least one processor set

   according to the number of shares assigned to each of said plurality of process

   groups associated with said at least one process set (page 5, paragraphs 4th, 7th,

   page 6, paragraphs 1, 2, page 8, paragraph 1 and page 13, paragraph 4, and figs.

   2-1 and 3-1), wherein said allocating system resources comprises using fair-share

   scheduling (page 12, last paragraph: Solaris Resource manager controls the rate of

   CPU usage through fir share scheduling).

   With respect to the term "at least one processor set", that has been understood and

interpreted by the examiner as one processor set in which the processor set can have just

one processor or CPU. Therefore, it would have been obvious for one of an ordinary skill

in the art, at the time the invention was made, to recognize White Paper discloses the

allocating of the processor set to the process group as can be seen in fig. 2 - 1.

7.      Regarding **claim 2**, White Paper discloses the system resources of each of the at

least one processor set are allocated on a number of shares of all active groups within

each of the at least one processor set (White Paper: page 4, 2$^{nd}$ paragraph, resource

utilization can actually increase because unused capacity is dynamically allocated to

active users and applications.  Page 5, 4$^{th}$ paragraph: CPU time allocated based on an

assigned number of shares, such that when application are idle or are consuming less than

their designated CPU allotment, other applications can take advantage of the unused

processing power).

8.      Regarding **claim 3**, White Paper discloses the percentage of the system resources

is calculated based on a ratio of the number of shares assigned to each of the process

groups to the number of shares of all active groups within each of the at least one

processor set (Page 5, 4$^{th}$ paragraph, page 5, last paragraph, page 6, 1$^{st}$ – 2$^{nd}$ paragraphs).

9.      Regarding **claim 4**, White Paper discloses each of the process groups includes

only one process (Page 5, last paragraph, page 6, 1$^{st}$ – 2$^{nd}$ paragraphs: Within each group

of process groups, there are individual users in which each might be having just one

process running.  For example, Within Operations Dept, there are Kelvin, Susan and

Brian in which one of user might be just having one process running).

10.     **Claims 5 - 12** are rejected on the same ground as stated in claims 1 – 4 above.

### *Response to Arguments*

11.     Applicant's arguments with respect to claims 1, 5 and 9 have been considered but

are moot in view of the new ground(s) of rejection.

12.     With respect to applicants' remark that "the examiner has incorrectly equated

process groups with groups of users" (page 5, last paragraph – page 6, 1st paragraph), the

examiner disagrees.  Processes are execute/run by users.  Each user can have one or more

processes running on the system.  Thus, the terms process group and group of users are

equivalent in this context.  Furthermore, applicants' disclosure stated that the processes

can be combined into aforementioned process groups based on various criteria, including,

but not limit to, user id of the user executing the process, group id of the user executing

the process (specification page 2, lines 18 – 20).

13.     With respect to applicants' remark that "White Paper fails to teach allocating

system resource using both process groups and processor sets" (page 8, lines 6 – 7), the

examiner disagrees.  White Paper teaches of the allocating CPU resource to process

groups by shares using Solaris Resource Manager which complements a number of

products such as processor sets that Sun offers for increasing resource availability (page

2, 2nd paragraph – 4th paragraph).

        In addition, in response to applicants' argument that there is no teaching or

suggestion about allocating resources using both process groups and processor set

together because White Paper alludes to processors sets in one place and separately

teaches system resource allocation based on the number of shares assigned to each group

users (page 8, lines 8 – 12), the examiner disagrees. Because the disclosures of these limitations are in different places, does not mean White Paper does not teach or suggest such features. White Paper clearly discloses of allocating CPU resource in which processor set to applications, in other words, processes (page 5, 4th paragraph: When applications are idle or are consuming less than their designated CPU allotment, other applications can take advantage of the unused processing power. Page 7, 4th paragraph: resources can be allocated for users, groups and applications.)

14.     In response to applicant's remark that White Paper fails to teach or suggest the step of assigning each of the process groups a number of shares of at least one processor set (page 6, 4th paragraph), the examiner disagrees. White Paper teaches such limitation in page 5, paragraphs 4th, 7th, page 6, paragraphs 1, 2, page 8, paragraph 1 and page 13, paragraph 4, and figs. 2-1 and 3-1. With respect to the term "at least one processor set", that has been understood and interpreted by the examiner as one processor set in which the processor set can have just one processor or CPU. Therefore, it would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to recognize White Paper discloses the allocating of the processor set to the process group as can be seen in fig. 2 - 1.

## Conclusion

15.     The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Product & Services: Chapter 8 – Fair Share Scheduler and SysAdmin Magazine and Galvin disclosed the allocating of processor set to the plurality of process groups according to the number of shares assigned to each process groups.

16.    Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Lilian Vo whose telephone number is 571-272-3774.  The

examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

    If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on 571-272-3756.  The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

    Any inquiry of a general nature or relating to the status of this application should

be directed to the TC 2100 Group receptionist at 571-272-2100.

    Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system.  Status information for

published applications may be obtained from either Private PAIR or Public PAIR.  Status

information for unpublished applications is available through Private PAIR only.  For

more information about the PAIR system, see http://pair-direct.uspto.gov.  Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).


                                        Lilian Vo
                                        Examiner
                                        Art Unit 2127

lv
May 13, 2005

                                        MENG-AI T. AN
                                 SUPERVISORY PATENT EXAMINER
                                 TECHNOLOGY CENTER 2100